

Having described our invention, we claim:

1. A pipeline inspection device allowing a user to direct a light toward said inspection device and thereby visibly inspect for deformation of a pipeline, with said pipeline having an internal diameter generally composed of a bottom region, two side regions, and a top region, and having a horizontal diameter and a vertical diameter, comprising:
  - a. a base portion, having a forward end and a rear end, configured to move along said bottom region of said internal diameter so that it lies on said vertical diameter;
  - b. a vertical test arm, having a forward end and a rear end, oriented vertically, and being mounted to said base portion by conventional flexible means, so that said vertical test arm lies on said vertical diameter, with a portion of said vertical test arm extending outward far enough from said base portion to contact said top region of said internal diameter, and wherein said vertical test arm is free to elastically move downward when said inspection device encounters a reduction in said vertical diameter of said pipeline;
  - c. a reflector positioned so as to be visible to said user when said user shines said flashlight on said reflector; and
  - d. an occluding device, moveable in relation to said reflector, and configured so that as said vertical test arm moves downward, said occluding device occludes said reflector, thereby indicating to said user that a reduction in said vertical diameter of said pipeline has been encountered.

2. A pipeline inspection device allowing a user to direct a light toward said inspection device and thereby visibly inspect for deformation of a pipeline, with said pipeline having an internal diameter generally composed of a bottom region, two side regions, and a top region, and having a horizontal diameter and a vertical diameter, comprising:
  - a. a base portion, having a forward end and a rear end, configured to move along said bottom region of said internal diameter so that it lies on said vertical diameter;
  - b. a vertical test arm, having a forward end and a rear end, oriented vertically, and being mounted to said base portion by conventional flexible means, so that said vertical test arm lies on said vertical diameter, with a portion of said vertical test arm extending outward far enough from said base portion to contact said top region of said internal diameter, and wherein said vertical test arm is free to elastically move downward when said inspection device encounters a reduction in said vertical diameter of said pipeline;
  - c. a reflector positioned so as to be visible to said user when said user shines said flashlight on said reflector; and
  - d. an occluding device, moveable in relation to said reflector, and configured so that said occluding device normally occludes said reflector, but as said vertical test arm moves downward, said occluding device exposes said reflector, thereby indicating to said user that a reduction in said vertical diameter of said pipeline has been encountered.

3. A pipeline inspection device as recited in claim 1, further comprising:
  - a. a plumb, rotatably mounted to said base portion proximate said rear end, and wherein said plumb is normally oriented vertically; and
  - b. a plumb reflector, affixed to said base proximate said rear end immediately forward of said plumb and sized so that so long as said plumb remains in said vertical orientation, said plumb reflector is not visible to said user.
4. A pipeline inspection device as recited in claim 2, further comprising:
  - a. a plumb, rotatably mounted to said base portion proximate said rear end, and wherein said plumb is normally oriented vertically; and
  - b. a plumb reflector, affixed to said base proximate said rear end immediately forward of said plumb and sized so that so long as said plumb remains in said vertical orientation, said plumb reflector is not visible to said user.
5. A pipeline inspection device as recited in claim 1, wherein said means for mounting said vertical test arm to said base portion allow for the adjustment of the undeflected position of said vertical test arm so as to allow for the inspection of a plurality of different sizes of said pipeline.
6. A pipeline inspection device as recited in claim 2, wherein said means for mounting said vertical test arm to said base portion allow for the adjustment of the undeflected position of

said vertical test arm so as to allow for the inspection of a plurality of different sizes of said pipeline.

7. A pipeline inspection device as recited in claim 1, further comprising:
  - a. a lateral test arm, having a forward end and a rear end, oriented horizontally, and being mounted to said base portion by conventional flexible means, so that said lateral test arm lies on said horizontal diameter, with a portion of said lateral test arm extending outward far enough from said base portion to contact one of two said side regions of said internal diameter, and wherein said lateral test arm is free to elastically move inward when said inspection device encounters a reduction in said horizontal diameter of said pipeline;
  - b. a second reflector positioned so as to be visible to said user when said user shines said flashlight on said reflector; and
  - c. a second occluding device, moveable in relation to said second reflector, and configured so that as said lateral test arm moves inward, said second occluding device occludes said second reflector, thereby indicating to said user that a reduction in said horizontal diameter of said pipeline has been encountered.

8. A pipeline inspection device as recited in claim 2, further comprising:
- a. a lateral test arm, having a forward end and a rear end, oriented horizontally, and being mounted to said base portion by conventional flexible means, so that said lateral test arm lies on said horizontal diameter, with a portion of said lateral test arm extending outward far enough from said base portion to contact one of two said side regions of said internal diameter, and wherein said lateral test arm is free to elastically move inward when said inspection device encounters a reduction in said horizontal diameter of said pipeline;
  - b. a second reflector positioned so as to be visible to said user when said user shines said flashlight on said reflector; and
  - c. a second occluding device, moveable in relation to said second reflector, and configured so that said second occluding device normally occludes said second reflector, but as said lateral test arm moves inward, said second occluding device exposes said second reflector, thereby indicating to said user that a reduction in said horizontal diameter of said pipeline has been encountered.
9. A pipeline inspection device as recited in claim 7, further comprising:
- a. a plumb, rotatably mounted to said base portion proximate said rear end, and wherein said plumb is normally oriented vertically; and
  - b. a plumb reflector, affixed to said base proximate said rear end immediately forward of said plumb and sized so that so long as said plumb remains in said vertical orientation, said plumb reflector is not visible to said user.

10. A pipeline inspection device as recited in claim 8, further comprising:
  - a. a plumb, rotatably mounted to said base portion proximate said rear end, and wherein said plumb is normally oriented vertically; and
  - b. a plumb reflector, affixed to said base proximate said rear end immediately forward of said plumb and sized so that so long as said plumb remains in said vertical orientation, said plumb reflector is not visible to said user.
11. A pipeline inspection device as recited in claim 7, wherein said means for mounting said vertical test arm to said base portion allow for the adjustment of the undeflected position of said vertical test arm so as to allow for the inspection of a plurality of different sizes of said pipeline.
12. A pipeline inspection device as recited in claim 8, wherein said means for mounting said vertical test arm to said base portion allow for the adjustment of the undeflected position of said vertical test arm so as to allow for the inspection of a plurality of different sizes of said pipeline.

13. A pipeline inspection device allowing a user to direct a light toward said inspection device and thereby visibly inspect for deformation of a pipeline, with said pipeline having an internal diameter generally composed of a bottom region, two side regions, and a top region, and having a horizontal diameter and a vertical diameter, comprising:
- a. a base portion, having a forward end and a rear end, configured to move along said bottom region of said internal diameter so that it lies on said vertical diameter;
  - b. a vertical test arm, having a forward end and a rear end, oriented vertically, and being mounted to said base portion by conventional flexible means, so that said vertical test arm lies on said vertical diameter, with a portion of said vertical test arm extending outward far enough from said base portion to contact said top region of said internal diameter, and wherein said vertical test arm is free to elastically move downward when said inspection device encounters a reduction in said vertical diameter of said pipeline;
  - c. a reflector card, fixedly mounted on said base portion, including a plurality of reflectors;
  - d. a window card, wherein
    - i. said window card is slidably mounted over said plurality of reflectors on said reflector card;
    - ii. said window card is attached to said vertical test arm so that said window card moves downward when said vertical test arm moves downward; and
    - iii. said window card includes a plurality of windows positioned to sequentially expose and occlude said plurality of reflectors in a predetermined sequence as

said vertical test arm moves downward, thereby indicating to said user the degree of deflection of said vertical test arm.

14. A pipeline inspection device as recited in claim 13, further comprising:
  - a. a plumb, rotatably mounted to said base portion proximate said rear end, and wherein said plumb is normally oriented vertically; and
  - b. a plumb reflector, affixed to said base proximate said rear end immediately forward of said plumb and sized so that so long as said plumb remains in said vertical orientation, said plumb reflector is not visible to said user.
15. A pipeline inspection device as recited in claim 13, wherein said means for mounting said vertical test arm to said base portion allow for the adjustment of the undeflected position of said vertical test arm so as to allow for the inspection of a plurality of different sizes of said pipeline.